Consistency in Open Architecture Contracting:
Open Systems Architecture Contract Guidebook

Defense Daily Open Architecture Summit
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Biographies and Photos of Panelists

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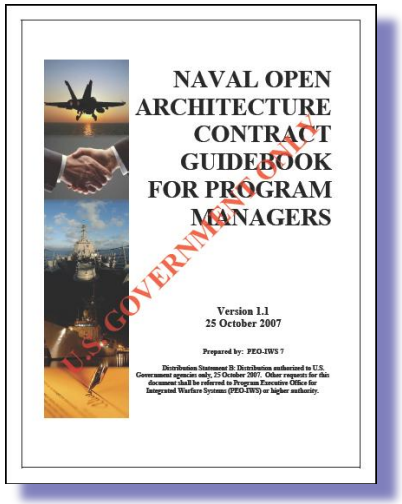
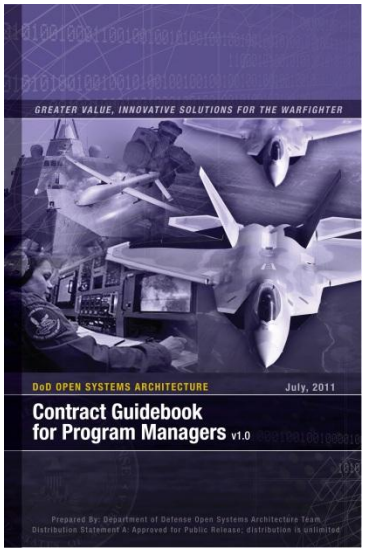
- Mr. Jeremy Cucco – Information Technology Specialist, Marine Corps Systems Command, DC SIAT, Systems Engineering and Integration

- Dr. Adam Razavian – Deputy Major Program Manager, Above Water Sensors Directorate, US Navy Program Executive Office Integrated Warfare Systems

History of the *Contract Guidebook*

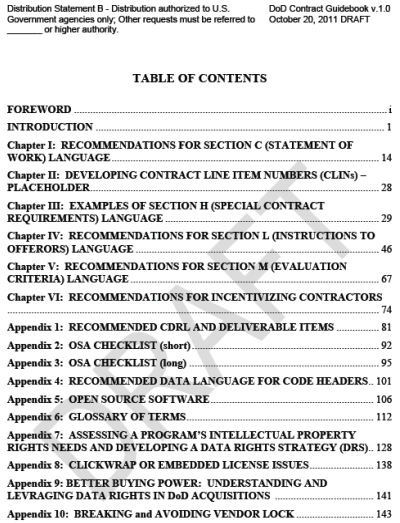
- The *Naval OA Contract Guidebook for Program Managers*, version 1.0, was released on 05 July 2006.
- Since that time, the Guidebook has gone through several iterations and updates.
- In 2010, as part of his "Better Buying Power" initiative, USD AT&L, Ashton Carter took notice of the Navy's OA Contract Guidebook
- Dr. Carter recommended elevating the Contract Guidebook to be a Joint, DoD-level publication.
- Intended to be a living document, the next spiral of the *OSA Contract Guidebook* will incorporate feedback, lessons learned and best practices from practitioners across DoD's acquisition community.





Introduction to the *DoD OSA Contract Guidebook*

- The Guidebook is recommended for use by all component Service Program Managers and Contracting Officers.
- For Programs incorporating OSA principles into National Security System (NSS) programs.
- The recommended language should be tailored based on Service, Domain, PEO, or Program-specific requirements.
- The Guidebook is divided into six chapters of suggested contract language for Sections C, H, L, and M, CLINs and Incentive Plans.
- Additionally, there are 11 Appendices on various topics, including CDRLs, intellectual property rights, peer reviews, system specification language and breaking vendor lock.



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DoD Contract Guidebook v.1.0
October 20, 2011 DRAFT

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Recommendations for Section C Language

Section C of the Request for Proposal (RFP) and the resulting contract contains the detailed description of the products to be delivered or the work to be performed under the contract. **Recommended OSA language for Section C covers topics such as:**

- Open architecture
- Modular, open design
- System requirements accountability
- Inter-component dependencies
- Modular Open Systems Approach
- Design information documentation
- Technology insertion
- Life Cycle Sustainability
- Interface design and management
- Treatment of proprietary elements
- Open business practices
- Reuse of pre-existing or common items
- Third-Party Development
- Life Cycle Management and Open Systems
- Standards

Sample Language

"Open Business Practices – The contractor shall demonstrate that the modularity of the system design promotes the identification of multiple sources of supply and/or repair, and supports flexible business strategies that enhance subcontractor competition."

Recommendations for Section H Language

Section H of the RFP and the resulting contract contains special clauses that can be incorporated into contracts as appropriate. **Recommended Section H clauses for OSA contracts include:**

- Requirement for an Open System Management Plan
- Early and Often Technical Disclosure
- Rights in Commercial Technical Data (TD), Commercial Computer Software (CS), and Commercial Computer Software Documentation (CSD)
- Specially Negotiated License Rights
- Special Provisions for the Purpose of Configuration Control
- Special Development Limitation Provisions

Sample Language

"Clause H: Requirement for an Open System Management Plan.

The contractor shall submit an Open System Management Plan. At minimum, the plan shall address:

Technical Approach and Processes

Open Systems Approach and Goals. The contractor shall prepare and submit for government approval its Open System Management Plan which shall include its approach for using …"

Recommendations for Section L Language

Section L of the RFP provides proposal instructions, conditions and notices to Offerors. Offerors should be encouraged to clearly demonstrate, through their use of similar technologies previously developed, the ability to meet the design, development, testing, and production requirements of the solicitation.
Recommended OSA language for Section L addresses:

- Technical Approach and Processes
- System Compliance with DoD or Service OSA Guidance
- Management Approach
- Data Rights and Patent Rights
- OSA Past Performance

Sample Language

"**Factor ( ) Data Rights and Patent Rights** …

The Offeror shall describe its plan for making design and interface information available as soon as possible after it is defined or established. The Offeror shall establish and maintain a process that will provide 'early and often' design disclosure directly to the Government or to third-party contracts."

Recommendations for Section M Language

Section M contains only recommended guidance for evaluation factors for contract award. Individual PEOs and programs can be flexible in selecting and weighting those items needed to meet their needs. **Recommended Section M evaluation factors for award of OSA contracts include:**

- Open Systems Approach and Goals
- Interface Design and Management
- Treatment of Proprietary or Vendor-Unique Elements
- Life Cycle Management and Open Systems
- System Compliance with DoD/Component Service OSA Guidance
- Management Approach
- Data Rights, Computer Software Rights and Patent Rights

Sample Language

“Factor () Management Approach:

The Offeror shall describe its approach for using Integrated Product Teams (IPTs) to improve processes, proactively manage risk and increase efficiency. The Offeror shall describe the steps it shall take to educate IPT members and others involved in the project on the importance and principles of OSA.”

Recommendations for Incentivizing Contractors

Award Fee, Incentive Fee, and Award Term plans can be used by programs to incentivize and award contractors for implementing Open Systems Architecture principles.

Incentive plans can be used to award contractors for:

- Incorporating considerations for portability, maintainability, technology insertion, vendor independence, and reusability
- Implementing a layered and modular system
- Minimizing inter-component dependencies
- Collaborating with the Government and other contractors and vendors
- Reducing development cycle time
- Using open, standards based interfaces
- Enabling rapid technology insertion

Award Terms – Instead of rewarding contractors with additional fees for exceptional performance, award term contracts reward contractors by extending the contract period of performance in the form of additional term periods added on to the basic contract.

Appendices to the Guidebook

Appendix 1: RECOMMENDED CDRL AND DELIVERABLE ITEMS
Appendix 2: OSA CHECKLIST (short)
Appendix 3: OSA CHECKLIST (long)
Appendix 4: RECOMMENDED DATA LANGUAGE FOR CODE HEADERS
Appendix 5: OPEN SOURCE SOFTWARE
Appendix 6: GLOSSARY OF TERMS
Appendix 7: ASSESSING A PROGRAM'S INTELLECTUAL PROPERTY RIGHTS NEEDS AND DEVELOPING A DATA RIGHTS STRATEGY (DRS)
Appendix 8: CLICKWRAP OR EMBEDDED LICENSE ISSUES
Appendix 9: BETTER BUYING POWER: UNDERSTANDING AND LEVRAGING DATA RIGHTS IN DoD ACQUISITIONS
Appendix 10: BREAKING and AVOIDING VENDOR LOCK
Appendix 11: SAMPLE CONTRACT DATA REQUIREMENTS LISTS (CDRLs)

Appendix 1: Recommended OSA CDRL and Deliverable Items

- The Guidebook provides examples of Contract Data Requirements List (CDRL) and other deliverable items that support OSA, facilitate component reuse, and can be incorporated into contracts
- Examples:
  - Reuse Management Report
  - Open Systems Management Plan
  - Software Design Description
  - Software Development Plan
  - Interface Design Description
  - Data Accession List
  - Detailed Specification Documents

This is an area of considerable interest and one that we are working to continually improve as our knowledge improves

Appendices 2 & 3: The OSA Checklists

- Developed by the Navy's OAET to facilitate the implementation of OSA and to provide PMs, PEOs, and the Milestone Decision Authority an easy way to check to see that programs are implementing the main points of OSA
- The short checklist is intended to be a quick check on a system's programmatics that when properly applied will yield the benefits of an open system
- The Checklist of Required FARs and DFARs clauses provides a complete references of those clauses which are applicable to OSA
- The long version of the checklist is divided up consistent with the OSA principles laid out previously in the contract guidebook

Appendix 4: Recommended Data Language for Code Headers

- Deliverable artifacts should include embedded data or language in code headers or in other locations that provides key information for those seeking to use these items in the future
- Appendix 4 includes recommendations for such language
- Developed by the Navy's SPAWAR
- The following are suggestions that can be used as appropriate for artifacts delivered under the various types of licensing rights:
  - Unlimited Rights
  - Government Purpose Rights (GPR)
  - Specially Negotiated License Rights.

Appendix 5: Open Source Software (OSS)

- The terms “open source” and “open architecture’ are often confused and at times are incorrectly used interchangeably, however, they are distinct
- Open Source Software (OSS) presents the Government with unique challenges with respect to some OSS licensing requirements
- This Appendix explains issues to consider when using OSS, such as the inability to negotiate license terms and “viral” licenses

Appendix 6: Glossary of Terms

- Provides a glossary of all terms used throughout the course of the contract guidebook
- Includes source references (where available)
- Example terms defined include:
  - Artifact
  - Commercial item
  - Design disclosure
  - Firmware
  - Government Purpose Rights (GPR)

Appendix 7: Assessing Intellectual Property Rights Needs and Developing a Data Rights Strategy (DRS)

- Consistent with Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum on Data Management and Technical Data Rights,19 July 2007, directing programs to take steps to identify and manage their Intellectual Property Rights (IPR)
- Contains pointers on the questions that a data rights assessment should answer
- Identifies process for developing a Data Rights Strategy
- Discusses points to consider about data rights and rights in computer software and computer software documentation
- Cites sections of the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS) that provide information about IPR

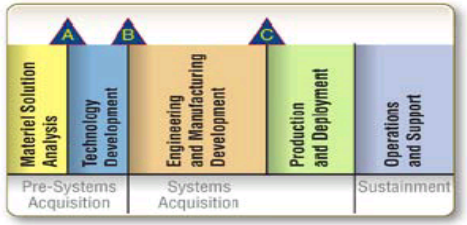
Appendix 8: Clickwrap or Embedded License Issues

- The proposed contract language presented in this appendix is relates to copyright, licenses, or other restrictions included in delivered software.
- This appendix addresses software that is delivered by a contractor on a website.
- Many times these sites contain a user's consent to all the terms and conditions of the site, etc.
- Specifically this section includes:
  - Language to prevent contractor use of "Clickwrap" licenses to circumvent government purpose rights.

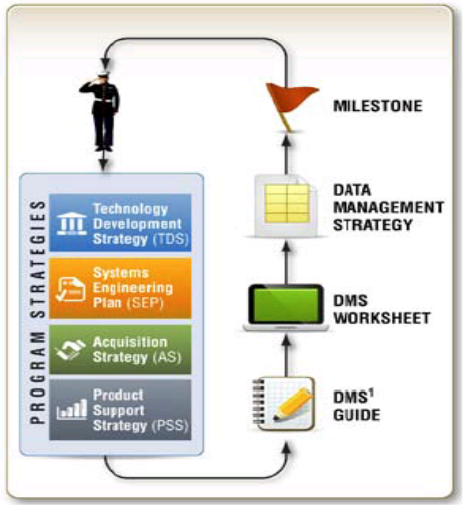
Appendix 9: Better Buying Power: Understanding and Leveraging IP Rights in DoD Acquisitions

Have you developed your Data Management Strategy (DMS)?

Program Managers shall assess the data required to design, manufacture, and sustain the system—including in-house uses, as well as competitive outsourcing—in their sustainment planning and Acquisition Strategies.



The DMS is to be integrated with the program:



[1] *Army Guide for the Preparation of a Program Product Data Management Strategy*

DATA MANAGEMENT AND DATA RIGHTS RESOURCES

Laws, Regulations, Policies, and Instructions

- Title 10, U.S. Code, Sections 2320 and 2321
- Defense Federal Acquisition Regulation Supplement (DFARS):
  - *227.71 (Rights in Technical Data)*
  - *227.72 (Rights in Computer Software and Computer Software Documentation)*
  - *252.227-7013, -7014, -7015, -7018*
- OSD Policy Memo, *Clarifying Guidance Regarding Open Source Software (OSS)*, 16 Oct 2009
- DoDI 5000.02, *Operation of the Defense Acquisition System*, Enclosure 12, Section 9, Dec. 2008
- DoD 5010.12-M, Procedures for the Acquisition and Management of Technical Data, May 1993 (under revision)

Additional Guidance

- Army Guide for the Preparation of a Program Product Data Management Strategy
- Naval Open Architecture Contract Guidebook for Program Managers
- Acquiring and Enforcing the Government's Rights in Technical Data and Computer Software Under Department of Defense Contracts, Air Force Space and Missile Systems Center

Please visit https://acc.dau.mil/oa for additional information and resources

Better Buying Power

Understanding and Leveraging Data Rights in DoD Acquisitions

Prepared by the Department of Defense Open Architecture Team

July 7, 2011

Statement A

Appendix 9: Better Buying Power: Understanding and Leveraging IP Rights in DoD Acquisitions

"Data Rights" → Rights in Technical Data (TD) and Computer Software (CS)

"Data Rights" is a shorthand way to refer to the Government's license rights in two major categories of valuable intellectual property:

- Technical Data (TD) includes any recorded information of a scientific or technical nature (e.g., product design or maintenance data, computer databases, and computer software documentation (CSD)).
- Computer software (CS) includes executable code, source code, code listings, design details, processes, flow charts, and related material.

Anticipating the Need for Data and Data Rights

A Program Manager must ensure that all TD and CS and related license rights required for procurement and sustainment of a system are available throughout the system's life cycle.

- Sustainment activities include reprocurement, maintenance, repair, modifications or interfacing/ interoperability activities, and upgrades or technology insertion.
- Consider a Priced Option for any data deliverables or data rights that you may need in the future, but did not order up front.

Identify and Resolve Data and Data Rights Issues *Prior to* Contract Award

Identify and resolve data delivery or data rights issues prior to contract award, by:

- Requiring Offerors to assert all restrictions on deliverable TD and CS—both commercial and noncommercial—up front, in their proposals;
- Evaluating the data and data rights packages being offered;
- Negotiating for mutually agreeable specialized license rights whenever the standard license categories do not meet both parties' needs; and
- Challenging asserted restrictions if necessary to account for Government investments.

Data Delivery Requirements

The DFARS clauses do not require delivery of TD or CS—the Government must include specific delivery requirements in each contract. For TD, it is important to distinguish detailed design data from less detailed operation or maintenance data. For CS, it is important to distinguish executable code from source code and other design data. Consider a priced option for contingency-based data delivery or data rights needs.

Data Rights Granted to the Government

The Government's license rights to a contractor's TD and CS generally depend upon the extent to which the Government funded the development of the technology, whether the technology is commercial or noncommercial, and any negotiations for mutually agreeable "special" license agreements. Some types of data qualify for Unlimited Rights regardless of development funding, such as "form, fit, and function data," (FFF) and data necessary for operation, maintenance, installation, and training (OMIT) purposes.

Rights Category	Applies to These Types of TD or CS	Rights Criteria	Permitted Uses Within the Government	Permitted Uses by Third Parties Outside the Government[1]
Unlimited Rights (UR)	Noncommercial TD and CS	Developed exclusively at Government expense, and certain types of data (e.g., FFF, OMIT, CSD)	All uses; no restrictions	All uses; no restrictions
Government Purpose Rights (GPR)	Noncommercial TD and CS	Developed with mixed funding	All uses; no restrictions	For "Government Purposes" only; no commercial use
Limited Rights (LR)	Noncommercial TD only	Developed exclusively at private expense	Unlimited; except may not be used for manufacture	Emergency repair or overhaul[2]
Restricted Rights (RR)	Noncommercial CS only	Developed exclusively at private expense	Only one computer at a time; minimum backup copies; modification[3]	Emergency repair/overhaul; certain service/maintenance contracts[2]
Negotiated License Rights	Any/all TD and CS– including commercial TD and CS	Mutual agreement of the parties; use whenever the standard categories do not meet both parties' needs	As negotiated by the parties; however, must not be less than LR in TD and must not be less than RR in noncommercial CS (consult with legal counsel as other limits apply)	
SBIR Data Rights	Noncommercial TD and CS	All TD or CS generated under an SBIR contract	All uses; no restrictions	Cannot release or disclose except to Government support contractors
Commercial TD License Rights	Commercial TD only	TD related to commercial items (developed at private expense)	Unlimited in FFF and OMIT; other rights as negotiated	
Commercial CS Licenses	Commercial CS only	Any commercial CS or CS documentation	As specified in the commercial license customarily offered to the public[4]	

[1] *All third party use under the Government's license is subject to Government authorization. For rights categories other than UR, releases or disclosures to third parties must be accompanied by either the Non-Disclosure Agreement (NDA) from DFARS 227.7103-7 or must occur under a contract containing DFARS 252.227-7025. A notice requirement also applies to releases of LR data and RR software.*

[2] *In addition to the footnote 1 NDA and notice requirements, all authorized Covered Government Support Contractor recipients of LR data or RR software must sign an NDA directly with the owner of the data/software, unless the direct-NDA requirement is waived by the owner.*

[3] *See DFARS 252.227-7014(a)(15) (March 2011) (or (a)(14) in previous versions) for more information.*

[4] *Such licenses must be consistent with Federal procurement law and satisfy user needs.*

Appendix 10: Breaking and Avoiding Vendor Lock

- Provides a series of recommended approaches for breaking and avoiding vendor lock
- Directed at current programs who are vendor locked
- Includes case study examples of successfully breaking/avoiding vendor lock
- Approaches to breaking and avoiding vendor lock addressed include:
  - React to environment and create a crisis for change
  - Leverage and exercise data rights
  - Change approach to systems engineering
  - Hold competition
  - Incentivize good behavior
  - Change contracts

Appendix 11: Sample Contract Data Requirements Lists

- This appendix includes sample CDRLs that can be used in conjunction with Appendix 1 and other parts of the guidebook to define the project's deliverables and other information products.
- Selected CDRLs included in this appendix are:
  - Scientific and Technical Reports
  - Interface Control Document (ICD)
  - Computer Program End Item Documentation
  - Software Development Plan
  - Software Firmware Transition Plan
  - Software Requirements Specification (SRS)
  - Interface Requirements Specification (IRS)
  - Software Design Description (SDD)
  - Others…

More information on Open Systems Architecture is also available on the Web at https://acc.dau.mil/oa